

REMARKS

Claims 1, 8 and 9 have been amended.

Claims 1, 3-4 and 6-9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Lobiondo (US Patent 5,287,194) in view of Hanson (US Patent 6,148,346). Claim 2 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Lobiondo in view of Hansen and further in view of Kitagawa et al. (US Patent 5,799,206) ("Kitagawa"). Claim 5 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Lobiondo in view of Hanson and further in view of Ogishima (US Publ. 2002/0083001). Applicant has amended independent claims 1, 8 and 9 and with respect to these claims, and their dependent claims, the Examiner's rejection is respectfully traversed.

Claim 1 has been amended to recite a remote printing server which receives data from a client computer via a local network and sends data over a global network so as to print the data on a remote printer which does not exist in the local network, comprising: print response means for performing a print control protocol for a local printer in the local network so that the client computer can recognize the remote printing server as a local printer in the local network, receiving print data from the client computer and performing a response to the client computer so that a print process of the print data can be completed locally in the client computer before the received print data is spooled in a spooling area in the remote printing server, spooling means for spooling the print data received by the print response means in the spooling area, transferring data conversion means for converting the print data spooled by the spooling means into a transferrable format in which the print data can be transferred to the remote printer over the global network using a predetermined transfer protocol and remote transfer means for transferring the print data converted into the transferrable format by the transferring data

conversion means to the remote printer over the global network using the predetermined transfer protocol. Claims 8 and 9 have been amended to recite similar features.

In the Office Action, the Examiner states that Lobiondo discloses print response means (scheduler 50, fig. 1) for performing a print control protocol (Ethernet system for a LAN protocol, col.3, lines 20-25) for a local printer in the local network (i.e., the scheduler 50 is responsive to the capability and availability of each printer 10 on the network; see col. 3, lines 64-67) so that the client computer (workstation 30, fig. 1) can recognize said remote printing server as a local printer in the local network (a server computer is programmed to receive plot requests in a common spooling area sent from other workstations/clients in a network and/or a print shop scheduler 50 is located within the network either at the print server 60 or at various local workstations 30 within the network for analyzing the information relating to the job; see col. 1, lines 35-40 and col. 3, lines 40-45), receiving print data from the client computer and performing a response to the client computer so that a print process of the print data can be completed locally in the client computer before the print data is spooled (scheduler 50 will prompt the user that the print queue is backed up and will have a completion time which is not in the near future. The user may then enter through the user interface a request to utilize a different printer, enter a required completion time and have the scheduler 50 allocate the job to one or more available printers; col. 5, lines 25-30; therefore print job must be generated first before being spooled to a different printer queue) (page 2, line 20-page 3, line 20).

Applicant has reviewed Lobiondo and applicant does not believe this reference discloses a remote printing server implementing a print control protocol that performs a response to a client computer so that a print process of print data can be completed locally in the client

computer before print data received within a spooling area of the remote printing server is spooled to a remote printer as recited in amended independent claims 1, 8 and 9.

As discussed in detail in our previous response, Lobiondo discloses a print server 60 communicating with multiple workstations 30 and multiple printers 10 over a network 20, the print server 60 including a scheduler 50 that provides optimum scheduling of print jobs on the network 20 (col. 1, lines 6-11). As shown in Fig. 4, an automatic print job distribution begins with a user at one of the workstations 30 sending a print job request and corresponding print job data to the print server 60 (step 410; col. 3, lines 56-58). Additionally, the user may enter the time when completion of the job is required (col. 4, lines 44-47). The print server 60 and the scheduler 50 determine the print job length based on the print job data (step 420) (col. 6, lines 53-55). The scheduler 50 then examines the print queue (step 430) and determines if a selected printer can complete the print job by the required time (step 440) (col. 6, lines 56-59). If the print job can be completed on time, the scheduler 50 allocated the print job to the selected printer (step 450) and then notifies the user how the print job was distributed and when the print job will be completed (step 460) (col. 4, lines 30-34).

If the print job cannot be completed on time, the scheduler 50 determines that portion of the print job that can be completed on time (step 415) and allocates that portion to the selected printer (step 425) (col. 6, lines 60-67). The unallocated portion of the print job is broken off (step 435) and the scheduler 50 checks for any other available printer (step 445) (col. 6, line 68-col. 7, line 2). If another printer is available, the scheduler 50 allocates the unallocated portion to this available printer (step 465) (col. 7, lines 5-7). However, if no other printers are available, the scheduler 50 informs the user that the job cannot be complete in time (step 544) (col. 7, lines 2-5). The user may then select a different printer, enter a new required completion

time and have the scheduler 50 allocate the job to one or more available printers, or choose the selected full print queue if printing is desired at a specific location and completion time is not important (col. 5, lines 27-33).

Therefore, Lobiondo discloses a scheduler on a print server that distributes print jobs and associated print data across multiple networked printers, the print jobs being generated by a user on multiple networked workstation and each print job having a user defined completion time. If the scheduler determines that a print job can be completed by a user defined time, the scheduler notifies the user of how the existing print job was distributed and when the print job will actually be completed. Alternatively, if the scheduler determines that the print job cannot be completed by the user defined time, the scheduler prompts the user to either (1) select a different printer, (2) enter a new required completion time or (3) choose the selected full print queue if printing is desired at a specific location and completion time is not important.

However, Lobiondo does not disclose the scheduler responding to the workstation that generated the print job for completing so that the print job can be completed locally on the workstation before the corresponding print data is spooled from the print server to a remote printer. Rather, if the print job can be completed in time, the scheduler allocates the print job and corresponding print data to the selected printer and notifies the user of how the existing print job was distributed and when the print job will be completed without responding to the workstation with all communications integral to a normal print process so that the print job is completed locally on the workstation before the print data is spooled to the selected printer.

Furthermore, if the print job cannot be completed in time, the scheduler allows the user to select a different printer, enter a new required completion time and have the scheduler allocate the job to one or more available printers, or choose the selected full print queue without also

responding to the workstation with all communications integral to an normal print process so that the print job is completed locally on the workstation before the print data is spooled to either the selected printer or a newly selected printer.

Therefore, as stated by the Examiner (Office Action, page 3, lines 12-18), a print job is first generated on a workstation and is then submitted with the corresponding print data to the print server for distribution to a network printer. However, Lobiondo does not disclose that, once the generated print job and the corresponding print data have been submitted to the print sever, the scheduler then responds to the workstation on which the print job was generated in a manner that locally completes that print job on that workstation prior to spooling the print data onto a remote printer. This feature ensures that the print job does not remain open on the local workstation that generated the print job while the print server selects a remote printer and actually spools the corresponding print data to the selected remote printer.

Hanson does not disclose anything that would change this determination. As discussed in detail in our prior response, Hanson discloses that a server receives data from a client via a LAN and transmits the received data via the Internet.

Accordingly, the combination of Lobiondo and Hanson does not teach or suggest a remote printing server implementing a print control protocol that performs a response to a client computer so that a print process of print data can be completed locally in the client computer before print data received within a spooling area of the remote printing server is spooled to a remote printer as recited in amended independent claims 1, 8 and 9.

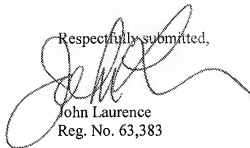
Therefore, none of the cited references discloses the above-described features of applicant's independent claims. Hence, applicant's amended claims 1, 8 and 9, and their dependent claims, thus patentably distinguish over the combination of Lobiondo and Hanson. In addition, Kitagawa and Ogishima, respectively cited against dependent claims 2 and 5, also do not disclose the above-discussed features of independent claims 1, 8 and 9.

In view of the above, it is submitted that applicant's claims, as amended, patentably distinguish over the cited art of record. Accordingly, reconsideration and allowance of the application and claims is respectfully requested.

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Respectfully submitted,



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